Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

CW/HW 67: Trig Applications

**Honors Geometry**

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| 1. Write out the three trig ratios in the boxes below | | |
| = | = | = |
| SOLVE FOR X Find the length missing side labeled as *x*. | | |
| 1. **../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.18%20AM.png** | 1. **../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.22%20AM.png** | 1. **../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.25%20AM.png** |
| 1. **../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.29%20AM.png** | 1. **../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.32%20AM.png** | 1. **../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.35%20AM.png** |

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| TRIG APPLICATION Based on the given information, use trig to solve each problem. Remember, the trig function you choose will depend on what you’re given and what you’re looking for! | |
| 1. You are traveling along a stretch of highway that has a slight grade with an angle of inclination of 5°. After traveling for 4 miles, what is the vertical v and horizontal h change in feet? (1 mi = 5280ft). Round your answer to the nearest foot. | 1. You lean a 16 foot ladder against the wall. If the ladder makes an angle of 70° with the ground, how far away from the wall is the base of the ladder? Round to the nearest tenth of a foot |
| 1. A staircase has an angle of elevation of 28° and covers a total distance of 17ft. Find the height h of the staircase to the nearest foot. | 1. Find the perimeter of the triangle. Round to the nearest tenth. |
| 1. To calculate the height h of a flagpole, you move 22 feet from the base and record the angle of elevation to the top to be 65°. Find the flagpole's height to the nearest foot. | 1. A wire is tied from the top of a 50 foot pole to a point on the ground, 15 feet away from the pole. If , what is the length of the wire? |
| 1. A lamppost, shown below, casts a 10ft. shadow when the sun is at a 60° angle with the ground. What is the height of the lamppost? | 1. If in a right triangle  and , then x = ? (Draw out & justify your answer) |
| 1. **../../../../../Desktop/Screen%20Shot%202016-02-15%20at%209.17.58%20AM**Find the shadow cast by a 10-foot lamp post when the angle of elevation of the sun is 58°. Find the length to the nearest tenth of a foot. | 1. A nursery plants a new tree and attaches an eight foot wire to help support the tree. The wire is also tied to a stake in the ground. The ground and the wire make a 42° angle. Find to the nearest tenth of a foot, the height of the connection point to the tree.   ../../../../../Desktop/Screen%20Shot%202016-02-15%20at%209.18.12%20AM |